PROTECTING TREES DURING CONSTRUCTION

The primary reason that trees in new development die is construction related. The health of those trees, which live, is directly related to the extent of the damage to their roots during the disturbance of earth. Generally, any change to the root zone greater than 35 percent will precipitate the unrecoverable decline of trees. It is the responsibility of the developer/contractor to protect all trees that are located within the project limits to minimize any possible damage due to construction activities. The following guidelines will help assure tree preservation during construction.

1. Trees to be preserved should be protected with fences. Fences protect trees from cutting, breaking, skinning, and bruising of tree roots, bark and branches. Fencing recommended for use is the fluorescent orange construction safety fence, 4 feet in height. Protective fencing must be installed before any construction activities begin and should remain in place until final grading and seeding operations are performed. Trees should be fenced so as to encompass the entire tree canopy. In no case should the fencing be less than 2 feet from the edge of the tree.

2. In order to prevent smothering of the tree root system, construction, excavation materials and topsoil must not be stockpiled under a tree's canopy.

3. In order to avoid soil and root zone compaction, vehicles and construction equipment must not be parked over any tree root system.

4. Construction equipment must not be left idling under a tree's canopy.

5. As much as possible, avoid digging under a tree's canopy.

6. If digging is unavoidable within the root zone, tunneling is preferable to trenching. Tunnels should be located according to the following table:

TREE DIAMETER (DBH)	**MINIMUM DISTANCE OF TUNNEL FROM TREE TRUNK (FT)**	**MINIMUM DEPTH OF TUNNEL (FT)**
less than 10"	6	2 1/2
10" to 14"	10	3
15" to 19"	12	3 1/2
20" and greater	15	4

7. Where tree root cutting is conducted, it must be with sharp cutting tools. Exposed tree roots must be backfilled as soon as possible. If roots must be exposed for a long period of time, they should be covered with burlap to prevent excessive loss of moisture. When burlap is used, it must be kept wet until the roots can be re-buried. There is no need to paint of treat the cut root ends.

8. Where extensive cutting of a tree root system has occurred, it is essential the tree root system receive between 1/2 inch and 1 inch of water on a weekly basis. When weather conditions are consistently dry and when less than 1/2 inch of rain has fallen during any given week, the developer/contractor needs to apply at least 1/2 inch of water on the tree root system.

9. Care should be taken to avoid any permanent changes in the surface level of soil under the tree as a result of construction. When the grade level is changed by removing soil from the top of the roots or by adding soil over the top of the roots, the tree has difficulty obtaining required amounts of air, water and minerals. Minor filling (6 inches of less in depth) will not harm most species of trees if the fill is good topsoil, high in organic matter and loamy in texture. Major grade changes require that air be supplied to the roots. This may be done by welling around a tree or installing a layer of gravel and a system of drain tiles over the roots of the tree. Protecting a tree from lowered grade can be achieved by terracing or building a retaining wall, if necessary.

Prepared by the Town of Greece Environmental Board, March, 1995.

References:
1. Protecting Trees From Excavation Damage, NYSDEC
2. Protecting Shade Trees During Home Construction, U.S. Dept. of Agriculture, Home and Garden Bulletin #104
3. Trenching & Tunneling Near Trees, The National Arbor Day Foundation
4. City of Rochester, A. Pleninger, Former City Planner

REVISED 10/2009